AMENDMENT

IN THE CLAIMS:

This listing of claims will replace all prior versions and listings of claims in the application:

1. – 16. (Cancelled)

17. (Previously Presented) The method of Claim 21, wherein the first length and the second length are different.

18. (Original) The method of Claim 17, wherein the first payload and the second payload are different.

19. (Original) The method of Claim 18, further comprising counting the number of packets transmitted by the test packet generator.

20. (Previously Presented) The method of Claim 21, wherein transmitting from the test packet generator comprises communicating data onto a parallel bus.

21. (Currently Amended) A method for testing network communication equipment with a test packet generator, comprising:

a) transmitting, from the test packet generator, a synchronization packet;

b) generating a first data packet including a first header and a first payload;

c) transmitting, from the test packet generator, the first data packet;

d) providing a first inter-packet gap of a first length;

e) generating a second data packet including a second header and a second payload;

f) transmitting, from the test packet generator, the second data packet;

g) providing a second inter-packet gap of a second length;

h) repeating steps (b) through (g) at least once;

wherein the first header is different from the second header;

wherein the method further comprises counting ~~the~~ a number of packets transmitted, receiving the packets, counting the received packets, and counting the received packets with errors;

wherein the first and second inter-packet gaps ~~are each an~~ comprise integer ~~multiple~~ multiples of 8 bytes, the first header and second header are each 20 bytes longs, and the first and second headers contain different data, and wherein the size of the first packet is representative of a control packet on an Internet backbone, and the size of the second packet is representative of a data packet on the Internet backbone.

22. (Currently Amended) The method of Claim 21, further comprising programming ~~the~~ content of the first packet header and the second packet header by executing software ~~which results in writing~~ to write to at least two sets of packet header registers.

23. (Currently Amended) The method of Claim 22, further comprising programming the content of the first payload and the second payload by executing software ~~which results in setting~~ to set one or more bits in at least two payload pattern registers.

24. (Currently Amended) The method of Claim 23, further comprising ~~programming~~ determining the size of the first packet and the second packet by executing software ~~which results in writing~~ to write packet size control information into at least two packet size control registers.

25. (Cancelled)

26. (Cancelled)

27. (Previously Presented) The method of Claim 33, further comprising, after a second inter-packet gap, transmitting the first test packet.

28. (Original) The method of Claim 27, further comprising after a second occurrence of the first inter-packet gap, transmitting the second packet.

29. (Original) The method of Claim 28, wherein the first payload and the second payload are different.

30. (Original) The method of Claim 28, wherein the first payload and the second payload are the same.

31. (Original) The method of Claim 27, wherein programming the first set of registers comprises writing data into one or more registers so as to define:

1) a total number of bytes in the first test packet;

2) a size of a gap between the transmission of the first and second test packets;

3) a pattern used to fill the first payload; and

4) a content of the first header.

32. (Original) The method of Claim 27, wherein programming the second set of registers comprises writing data into one or more registers so as to define:

1) a total number of bytes in the second test packet;

2) a size of a gap between the transmission of the second and first test packets;

3) a pattern used to fill the second payload; and

4) a content of the second header.

33. (Previously Presented) A method of testing network communications equipment, comprising:

a) programming a first set of registers that define a format of a first test packet;

b) programming a second set of registers that define a format of second test packet;

c) transmitting a synchronization packet;

d) transmitting the first test packet;

e) transmitting, after a first inter-packet gap, the second test packet;

wherein the first test packet comprises a first packet header, and a first payload: and the second test packet comprises a second packet header, and a second payload; wherein the first and second packet headers are different; and

wherein the method further comprises receiving the synchronization packet, receiving the first test packet, receiving the second test packet, incrementing a first counter to record the number of received packets; determining if the first test packet was received correctly, and determining if the second test packet was received correctly.

34. (Currently Amended) The method of Claim 33, further comprising incrementing a second counter ~~if any received~~ in response to receipt of a test packet ~~contains~~ containing an error.

35. (Currently Amended) The method of Claim 33, further comprising incrementing a third counter ~~each for each~~ in response to transmission of a test packet ~~that is transmitted~~ by the test generator.

36. (Original) The method of Claim 33, wherein transmitting the synchronization packet and receiving the synchronization packet are performed on a single chip.

37. (Previously Presented) The method of Claim 33, wherein transmitting the synchronization packet is performed on a first integrated circuit chip, and receiving the synchronization packet is performed on a second chip.

38. – 45. (Cancelled)

46. (New) A test packet generator, comprising:

first test generator logic adapted to generate a synchronization message, and a first and a second test packet having a header and a payload, wherein at least the header of the first packet is different from the header of the second packet;

transmit logic, adapted to transmit the synchronization message, the first test packet and the second test packet, wherein the first and the second test packet are transmitted with an inter-packet gap;

receive logic, adapted to receive the synchronization message, the first transmitted test packet and the second transmitted test packet, and provide one or more of the first and second transmitted test packets to monitor logic; and

second test generator logic adapted to generate a first generated test packet and a second generated test packet, and provide one or more of the first and second generated test packets to the monitor logic.

47. (New) The test packet generator of claim 46, wherein the monitor logic is further adapted to compare at least a portion of the first and second transmitted test packets with at least a portion of the first and second generated test packets, and determine whether a transmit error has occurred based at least in part on the comparison.

48. (New) The test packet generator of claim 46, wherein the first test generator logic and the transmit logic are implemented on a switch having a plurality of ports coupled to a network.

49. (New) The test packet generator of claim 48, wherein the receive logic and the second test generator logic are implemented on the switch.

50. (New) The test packet generator of claim 49, wherein the switch includes a first and a second port, wherein the transmit logic is implemented on the first port, and the receive logic is implemented on the second port.

51. (New) The test packet generator of claim 48, wherein the monitor logic is implemented on the switch.